

WHAT IS CLAIMED

1. A method for reporting information representative of performance measurement data for a communication link, from a remote site at which link performance measurements are performed, to a query site comprising the steps of:
 - (a) in response to said remote site detecting a prescribed digital code sequence, causing said remote site to select one of at least three different numbers of errors, associated with respectively different ranges of link performance parameters, in accordance with a prescribed relationship between said performance measurement data and said respectively different ranges of link performance parameters; and
 - (b) introducing said selected number of errors into said prescribed digital code sequence as transported over said link from said remote site to said query site.
2. The method according to claim 1, wherein step (a) comprises causing said remote site to select that one of said at least three different numbers of errors, based upon in which of a plurality of respectively different ranges of link performance parameters, said link performance measurements parameter values are located.
3. The method according to claim 1, wherein said respectively different ranges of link performance parameters include multiple sets of performance thresholds respectively associated with plural link parameters.
4. The method according to claim 3, wherein said plural link parameters include signal margin and pulse attenuation.
5. The method according to claim 1, wherein said prescribed digital code sequence comprises a repetition of the digital code pattern DBDB_{HEX}.

6. The method according to claim 1, wherein step (b) comprises introducing said selected number of errors into said prescribed digital code sequence transported over said link from said remote site to said query site as a DSX digital signal stream.

7. A method for enabling a communication link test site, remote with respect to a measurement site, to derive information representative of performance measurement data performed on said communication link by said measurement site, said method comprising the steps of:

- 5 (a) transmitting, from said test site over said communication link to said measurement site, a prescribed digital code sequence;
- 10 (b) at said measurement site, introducing a selected one of at least three different numbers of errors, associated with respectively different ranges of link performance parameters, into said prescribed digital code sequence as looped back over said communication link to said test site, in accordance with a prescribed relationship between said performance measurement data and said respectively different ranges of link performance parameters; and
- 15 (c) at said test site, processing said prescribed digital code sequence into which said selected number of errors have been introduced in step (b), as looped back over said communication link, so as to derive said information representative of said performance measurement data performed on said communication link by said measurement site.

8. The method according to claim 7, wherein step (b) comprises introducing that one of said at least three different numbers of errors into said prescribed digital code sequence as looped back over said communication link to said test site, based upon in which of a plurality of respectively different ranges of link performance parameters, said link performance measurements parameter values are located.

9. The method according to claim 8, wherein said respectively different ranges of link performance parameters include multiple sets of performance thresholds respectively associated with plural link parameters.

10. The method according to claim 9, wherein said plural link parameters include signal margin and pulse attenuation.

11. The method according to claim 9, wherein said prescribed digital code sequence comprises a repetition of the digital code pattern DBDB_{HEX}.

12. The method according to claim 7, wherein step (b) comprises introducing said selected number of errors into said prescribed digital code sequence transported over said link from said measurement site to said test site as a DSX digital signal stream.